

User Documentation

GRITS/STAT v5.0

A GRound Water Information Tracking System with STATistical Analysis Capability

U.S. Environmental Protection Agency

Region 7
Kansas City, Kansas

Region 5
Chicago, Illinois

Office of Research and Development
Office of Science, Planning and Regulatory
Evaluation Center for Environmental Research Information
Cincinnati, Ohio

Office of Solid Waste
Permits and State Programs Division
Washington, DC

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Notice

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This computer software and user documentation is not intended to be a stand alone guidance document for a specific regulatory program. Guidance documents are available from EPA. EPA must be consulted to address specific regulatory issues. With proper use, this can software provide the statistical tools needed to meet the regulatory requirements and an electronic data base to store ground-water monitoring data. Mention of trade names or commercial products does not constitute endorsement or recommendation for use.

***** DISCLAIMER *****

This software program was designed under contract with U.S. EPA based upon the following documents:

Definitions for the Minimum Set of Data Elements for Ground Water Quality, U.S. EPA Office of Water, July, 1992;

Statistical Analysis of Ground Water Monitoring Data at RCRA Facilities, Interim Final Guidance, U.S. EPA Office of Solid Waste, April 1989; and

Statistical Analysis of Ground Water Monitoring Data at RCRA Facilities, Addendum to Interim Final Guidance, U.S. EPA Office of Solid Waste, July 1992.

Available as "Statistical Training Course Materials"

EPA/530-R-93-033) from the RCRA DOCKET (703) 603-9230.

A user support line has been set up to assist you with any problems that may arise when operating this software. The telephone number is (703) 448-6415. This support line will remain in operation until July 20, 1997.

DO NOT TRY TO USE THIS SOFTWARE WITHOUT FIRST REVIEWING THE TWO GUIDANCE DOCUMENTS ON GROUND-WATER STATISTICS REFERENCED ABOVE.

This software and guidance is available free to the public to assist with understanding and applying the concepts in these documents. Neither the U.S. EPA, nor its contractors, nor any person acting on behalf of either of these entities:

- a. makes any warranty, express or implied, with respect to this software; nor
- b. assumes any liabilities with respect to the use or misuse of this software, or the interpretation or misinterpretation of any results obtained from this software, or for damages resulting from the use of this software.

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TECHNICAL SUPPORT

EPA is committed to helping users get the most out of the GRITS/STAT software. To assist in this effort, please complete and return the User Registration Form on page vii prior to contacting technical support.

Technical support for **GRITS/STAT** is provided through the following services:

EPA Office of Research and Development (ORD) Bulletin Board System (BBS) - can be reached at (513) 569-7610. EPA uses the BBS to upload system updates and list changes to both the software and the users manual. You may download these changes free of charge. You may also leave messages concerning questions, comments, or problems on the BBS.

EPA GRITS/STAT User Support Hotline - can be reached at (703) 448-6415. Your call will be answered by a voice-mail system.

Please leave your name, organization, telephone number, the time of your call, the best time to contact you, and a brief description of the problem. Support personnel will respond to your call during normal business hours (8:30 a.m. to 5:30 p.m. Central Time Monday through Friday).

Before calling the GRITS/STAT User Support Hotline, please follow the steps in the Pre-Call Checklist on the next page. If you collect the requested hardware/software information and follow the Pre-Call Checklist, our Software Technicians will be able to help you more quickly and efficiently.

Pre-Call Checklist

1. Be sure that you have collected the hardware/software information listed below.
2. Check to see if your computer meets the minimum hardware requirements which are necessary to use this software. Is 570K memory available? Use the DOS command CHKDSK to determine available memory. Are there at least 40 files designated in the CONFIG.SYS file on your system?
3. Check the User Documentation, including this addendum. If your question is not addressed in the documentation, contact the ORD-BBS or the User Support Hotline.

Also, before calling the GRITS/STAT User Support Hotline, please consider the following items:

4. If possible, before you call, you should be sitting at your computer, with the computer on and the software loaded.
5. Did the program work correctly at any time previously? If so, have you changed anything

in the computer environment?

6. Can you reproduce the sequence of steps or the application that demonstrates the problem? Did any error messages appear? If so, exactly what were they?

Software/Hardware Information

Software version number (i.e., GRITS/STAT 5.0):	
Processor Type (i.e., 486, Pentium):	
Available conventional memory:	
Available EMS/XMS:	
Operating system name, version (i.e., MS DOS, MS Windows, OS/2):	
Is software being used on a Local Area Network (LAN)?:	
TSRs Loaded (i.e., Disk Compression software, Network Drivers, MS DOS Screen Savers, etc.):	
Video adapter board (i.e., VGA, SVGA):	

FOREWORD

The Nationwide **GR**oundwater **I**nformation **T**racking **S**ystem/**ST**atistical Analysis System (**GRITS/STAT**) is a comprehensive groundwater database system designed to store, analyze, and report data generated during groundwater monitoring programs at RCRA, CERCLA, and other regulated facilities and sites.

The current version of GRITS/STAT (5.0) is an integration/upgrade of an existing electronic data base (GRITS 4.2) and the prescribed groundwater statistical procedures. The necessary statistical procedures and the data selection capability are available in the statistical analysis module of the GRITS/STAT system. It is the users responsibility to properly select and statistically analyze the data. Proper data selection and statistical procedures should be obtained from consultation with appropriate EPA staff, reference to the appropriate permit, or reference to the appropriate guidance documents. Proper statistical guidance is provided in the following documents:

Statistical Analysis of Ground-Water Monitoring Data At RCRA Facilities - Interim Final Guidance Document, 4/89 (NTIS #PB 89-151-047. EPA/530-SW-89-026)

July, 1992 Addendum to the above Guidance Document -Distributed as "Statistical Training Course Materials" available from the RCRA Docket, (EPA/530-R-93-003), Telephone (703) 603-9230.

ALSO NOTE THAT THESE GUIDANCE DOCUMENTS IN ADDITION TO THE USER MANUAL CAN BE DOWNLOADED FROM THE INTERNET SITE:

<http://www.pcengineering.com/~grits>

As did its predecessor **GRITS/STAT 4.2**, **GRITS/STAT 5.0** provides a flexible user friendly interface for data entry and modification, integrated access to "Industry Standard" IMSL statistical analysis routines, predefined report formats, and data import and export utilities. In addition, **GRITS/STAT 5.0** includes many new features that will increase its usefulness as a groundwater data management tool. Most notably, the program has been modified to take advantage of extended memory. While **GRITS/STAT 5.0** now requires a minimum of 2 Megabytes of installed Random Access Memory (RAM), many of the memory limitations inherent in earlier versions of the system have been removed.

The information stored in the **GRITS/STAT** system can potentially be transferred to other database/tracking/analysis systems. The modular design of the system lends itself to integration with present and future needs. Prototype modules are implemented in **GRITS/STAT 5.0**, that export geologic information to the SURFER version 4 modeling package. Requirements are being developed for modules to export mapping information to the ARC-INFO geographic information system (GIS). Soil monitoring data storage is also being investigated as a potential

enhancement to the **GRITS/STAT** database system. The development of **GRITS/STAT** has been a collaborative effort between the U.S. EPA Office of Solid Waste/Permits and State Programs Division, Region 5, Region 7, and the U.S. EPA Office of Research and Development/Center for Environmental Research Information (CERI). The current version of **GRITS/STAT** reflects numerous years of user groundwater database experience in the regulatory and regulated communities.

